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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,048	03/10/2004	Hideki Kamada	24917IUS0	2720

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EXAMINER	
STEELE, JENNIFER A	

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
11/29/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/796,048	KAMADA ET AL.	
	Examiner	Art Unit	
	Jennifer Steele	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9-12 and 17-22* is/are pending in the application.

4a) Of the above claim(s) *13-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9-12 and 17-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 22 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The term uniformly is not disclosed or described in the specification. The term uniformly is a relative term that would indicate lack of variation or variability dimension of flatness that is being described. Use of the term uniform does not allow one of ordinary skill in the art is unable to distinguish whether the flat fiber of the current invention is different from the prior art.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1-2, 10, 18, 21 and 22 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-2, 10, 18, 21 and 22 describe a mean thickness **D** (μm) wherein **D** = **S/L** wherein **S** indicates the cross-sectional area of the fibers and **L** indicates the length of the major side of the cross section of the fibers. Fig. 4 shows a diagram of a fiber with a major side and a minor side. The claims

equate the major side with the dimension **L**. The claims and specification do not equate the minor side with the dimension **D** defined as mean thickness. Examiner considers **L** to equated with the major side and **D** to be equated with the minor side and therefore **S**, the cross-sectional area of the fiber, **S** = **{LxD}** and **S** = (major side) x (minor side).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-3, 10-11, 18-19 and 21-22 rejected under 35 U.S.C. 102(b) as being anticipated by Toray (JP 49100327A as published in Derwent 1975-34944W). Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray teaches the flat fibers are spun through orifice sized at 0.04 x 0.5 mm (40-500 micron) to produce flat fibers with a width of 37.5 micron and thickness of 3.4 micron. The fiber thickness is equated with the current application's mean thickness **D** and is in the range 0.4 and 5 micron as claimed.

4. Claim 2, 10 and 18 rejected under 35 U.S.C. 102(b) as being anticipated by Toray (JP 49100327A as published in Derwent 1975-34944W). Toray anticipates an **L/D** of 10-50 and teaches an **L/D** of 11 (equal to 37.5/3.4).

5. Claim 3, 11 and 19 rejected under 35 U.S.C. 102(b) as being anticipated by Toray (JP 49100327A as published in Derwent 1975-34944W). Toray anticipates

branched flattened fibers and teaches the fibers are beaten to fibrillate and produce a pulp having freeness of 305 cm^3.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 9 and 17 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Toray. Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray teaches branched flattened fibers and teaches the fibers are beaten to give a pulp having freeness of 305 cm^3. As to claims 9 and 17, Toray differs and teaches beating the fibers to fibrillate into pulp. Toray refers to fibers for manufacturing paper substitutes and is referencing a process for producing wet laid nonwoven. Toray differs and does not teach a dry laid process and Toray does not teach fibrillating the fibers by water jet or needlepunching. The method of preparing the nonwoven and the method of fibrillating the fibers does not distinguish the material of

the current application over the prior art of Toray. It should be noted that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though a different process made the prior product. In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. In re Marosi, 218 USPQ 289,292 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 1-3, 9-11, 17-19, 21 and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Toray (JP 49100327A as published in Derwent 1975-34944W) in

view of Ohmory et al (US 5,972,501). Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray teaches branched flattened fibers and teaches the fibers are beaten to give a pulp having freeness of 305 cm^3. As to claims 9 and 17, Toray differs and teaches beating the fibers to fibrillate into pulp.

Ohmory teaches easily fibrillatable fiber of vinyl alcohol based fibers wherein the fibers are formed by melt spinning through an orifice. Ohmory teaches the fibers can be fibrillated by method of beating or preferably by a method of applying a high-pressure water jet onto the web (col. 10, lines 59-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a method of high-pressure water jet to the fibers of Toray motivated to fibrillate the fibers to produce a fabric capable of absorption.

8. Claim 1 and 4, 9 and 12, 17 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Toray (JP 49100327A as published in Derwent 1975-34944W) in view of Howard (US 5230949). Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray differs from the current application and does not teach a filler.

Howard teaches fibers or filaments prepared with a filler and extruded to form fibers that may be formed into nonwoven webs. The fillers can be minerals such as

mica, montmorillonite or siliceous fillers that also include mica's vermiculite (col. 3, lines 4-25). Fillers are used to improve properties of the polymer fiber including mechanical and thermal properties. This invention is motivated to improve wettability or absorption. Howard teaches filler amounts of 10-90% by volume of fibers, but preferably between 40-60% (col. 4, lines 43-51). The average particle size of the filler is preferably 0.01-10 microns. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine to add an inorganic filler material to the polyvinyl alcohol fibers motivated to improve the properties of the PVA fibers.

Response to Arguments

9. Applicant's arguments with respect to claim 1-4, 9-12 and 17-22 have been considered but are moot in view of the new ground(s) of rejection. The previous 35 USC 102(b) rejection with respect to Deguchi is withdrawn.

10. Applicant's arguments with respect to claim 3,11 and 19 have been considered but are moot in view of the new ground(s) of rejection. The previous 35 USC 102(b) rejection with respect to Deguchi in view of Maeda is withdrawn.

11. Applicant's arguments with respect to claim 4, 12 and 20 have been considered but are moot in view of the new ground(s) of rejection. The previous 35 USC 102(b) rejection with respect to Deguchi in view of Howard is withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Steele whose telephone number is (571) 272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

11/15/2007